

Work Order ID 99657

99657

Page 1

April-11-13 2:34:23 PM

Item ID: D2258-200 Accept *N900040100* Setup Start *NS1*
 Revision ID: Stop *NS2*
 Item Name: Placard 200lb
 Start Date: 4/11/13 Start Qty: 10.00 *10* Cust Item ID:
 Required Date: 4/11/13 Req'd Qty: 10.00 *10* Customer:
 Reference:

Approvals: Process Plan: MLS Date: 13-04-16 Tooling: _____ Date: _____ Run Start *NR1*
 QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop *NR2*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
Draw Nbr	Revision Nbr								
D2258	F								
100	PURCHASING	0.00							
100									
Purchasing	Memo	0.00							
Purchasing	Issue P/O: <u>19613</u>								
	Make D2258-200 read 200lb / 91kg as per Dwg D2258								
	Material: Red letters (1.00" min height) with adhesive back Manufacture from								
	3M 7mil masking film #8522CP or Avery IPM #2031								
	Material release note is required								
110	Receive & Inspect for Damage & Mat'l Certs	0.00							
110									
Packaging	Memo	0.00							
Packaging	Ensure material release note is attached								

PL 13-04-17

13/4/22 (10)

NCR: Yes / No

WORK ORDER NON-CONFORMANCE / UPDATE

DQA: _____ Date: _____

QA Closed: _____ Date: _____

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION <div style="display: flex; justify-content: space-around;"> <div> <input type="checkbox"/> Rework <input type="checkbox"/> Scrap <input type="checkbox"/> Use-as-is <input type="checkbox"/> Work Order Update </div> <div> <input type="checkbox"/> Skid-tube <input type="checkbox"/> Machining <input type="checkbox"/> Thermoforming <input type="checkbox"/> Large Fab </div> <div> <input type="checkbox"/> Crosstube <input type="checkbox"/> Small Fab <input type="checkbox"/> Finishing <input type="checkbox"/> Composite </div> <div> <input type="checkbox"/> Water Jet <input type="checkbox"/> Prod. Eng. Coord. <input type="checkbox"/> Rec/Store/Packaging <input type="checkbox"/> Supplier </div> <div> <input type="checkbox"/> Engineering <input type="checkbox"/> Quality <input type="checkbox"/> Other </div> </div>	
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Root Cause	Date	Step	Qty	Description of work order update or Non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Doc/Data									
Equip/Tooling									
Operator									
Material									
Setup									
Other									
Process									
Supplier									
Training									
Unapproved									

FAULT CATEGORY

Landing Gear <input type="checkbox"/> Bending <input type="checkbox"/> Centre Not Concentric to O/S <input type="checkbox"/> Cracks <input type="checkbox"/> Crushed/Crimped <input type="checkbox"/> Cuffs <input type="checkbox"/> Heat Treat <input type="checkbox"/> Inspection Strip in Tube <input type="checkbox"/> Ripples in Bend <input type="checkbox"/> Torque Waves in Extrusion <input type="checkbox"/> Turning Sequence <input type="checkbox"/> Wave/Twist in Tube	General <input type="checkbox"/> Bend <input type="checkbox"/> BOM/Route <input type="checkbox"/> Broken/Damaged <input type="checkbox"/> Burrs <input type="checkbox"/> Contamination <input type="checkbox"/> Countersink <input type="checkbox"/> Cut Too Short <input type="checkbox"/> Drill Holes <input type="checkbox"/> Drawing <input type="checkbox"/> Finish <input type="checkbox"/> Folio	<input type="checkbox"/> Grain <input type="checkbox"/> Hardware <input type="checkbox"/> Inspection Incomplete <input type="checkbox"/> Instructions Incomplete/Unclear <input type="checkbox"/> Maintenance <input type="checkbox"/> Mislabeled <input type="checkbox"/> Misread <input type="checkbox"/> Offset <input type="checkbox"/> Out of Calibration <input type="checkbox"/> Out of Sequence <input type="checkbox"/> Outside Dimensions	<input type="checkbox"/> Ovalized <input type="checkbox"/> Over/Under tolerance <input type="checkbox"/> Part Incorrect <input type="checkbox"/> Part Lost/Missing <input type="checkbox"/> Part Moved <input type="checkbox"/> Positioned Wrong <input type="checkbox"/> Power Loss/Surge <input type="checkbox"/> Pressure/Forced <input type="checkbox"/> Temperature/Cure <input type="checkbox"/> Weld <input type="checkbox"/> Wrong Stock Pulled <input type="checkbox"/> Other
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Page 2

April-11-13 2:34:23 PM

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Approvals: Process Plan: Date: Tooling: Date: Run Start *NR1*
 QC: Date: SPC (Y/N): Date: Stop *NR2*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
120 *120* QC Quality Control	QC6- Inspect dimensions to drawing Memo	0.00 0.00		DAS 16 13/04/22		(K10)			
130 *130* Packaging Packaging	Identify as per dwg & Stock Location: <u>St007</u> Memo	0.00 0.00				10x		SP 13-4-23	
140 *140* QC Quality Control	QC21- Final Inspection - Work Order Release Memo	0.00 0.00						13/4/23	

13/04/23

NCR: Yes / No

WORK ORDER NON-CONFORMANCE / UPDATE

DQA: _____ Date: _____

QA Closed: _____ Date: _____

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework <input type="checkbox"/> Scrap <input type="checkbox"/> Use-as-is <input type="checkbox"/> Work Order Update <input type="checkbox"/>	AGAINST DEPARTMENT/PROCESS <table style="width: 100%;"> <tr> <td>Skid-tube <input type="checkbox"/></td> <td>Crosstube <input type="checkbox"/></td> <td>Water Jet <input type="checkbox"/></td> <td>Engineering <input type="checkbox"/></td> </tr> <tr> <td>Machining <input type="checkbox"/></td> <td>Small Fab <input type="checkbox"/></td> <td>Prod. Eng. Coord. <input type="checkbox"/></td> <td>Quality <input type="checkbox"/></td> </tr> <tr> <td>Thermoforming <input type="checkbox"/></td> <td>Finishing <input type="checkbox"/></td> <td>Rec/Store/Packaging <input type="checkbox"/></td> <td>Other <input type="checkbox"/></td> </tr> <tr> <td>Large Fab <input type="checkbox"/></td> <td>Composite <input type="checkbox"/></td> <td>Supplier <input type="checkbox"/></td> <td></td> </tr> </table>	Skid-tube <input type="checkbox"/>	Crosstube <input type="checkbox"/>	Water Jet <input type="checkbox"/>	Engineering <input type="checkbox"/>	Machining <input type="checkbox"/>	Small Fab <input type="checkbox"/>	Prod. Eng. Coord. <input type="checkbox"/>	Quality <input type="checkbox"/>	Thermoforming <input type="checkbox"/>	Finishing <input type="checkbox"/>	Rec/Store/Packaging <input type="checkbox"/>	Other <input type="checkbox"/>	Large Fab <input type="checkbox"/>	Composite <input type="checkbox"/>	Supplier <input type="checkbox"/>	
Skid-tube <input type="checkbox"/>	Crosstube <input type="checkbox"/>	Water Jet <input type="checkbox"/>	Engineering <input type="checkbox"/>															
Machining <input type="checkbox"/>	Small Fab <input type="checkbox"/>	Prod. Eng. Coord. <input type="checkbox"/>	Quality <input type="checkbox"/>															
Thermoforming <input type="checkbox"/>	Finishing <input type="checkbox"/>	Rec/Store/Packaging <input type="checkbox"/>	Other <input type="checkbox"/>															
Large Fab <input type="checkbox"/>	Composite <input type="checkbox"/>	Supplier <input type="checkbox"/>																

Root Cause	Date	Step	Qty	Description of work order update or Non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Doc/Data									
Equip/Tooling									
Operator									
Material									
Setup									
Other									
Process									
Supplier									
Training									
Unapproved									

FAULT CATEGORY

Landing Gear	General	Other
<input type="checkbox"/> Bending	<input type="checkbox"/> Bend	<input type="checkbox"/> Grain
<input type="checkbox"/> Centre Not Concentric to O/S	<input type="checkbox"/> BOM/Route	<input type="checkbox"/> Hardware
<input type="checkbox"/> Cracks	<input type="checkbox"/> Broken/Damaged	<input type="checkbox"/> Inspection Incomplete
<input type="checkbox"/> Crushed/Crimped	<input type="checkbox"/> Burrs	<input type="checkbox"/> Instructions Incomplete/Unclear
<input type="checkbox"/> Cuffs	<input type="checkbox"/> Contamination	<input type="checkbox"/> Maintenance
<input type="checkbox"/> Heat Treat	<input type="checkbox"/> Countersink	<input type="checkbox"/> Mislabeled
<input type="checkbox"/> Inspection Strip in Tube	<input type="checkbox"/> Cut Too Short	<input type="checkbox"/> Misread
<input type="checkbox"/> Ripples in Bend	<input type="checkbox"/> Drill Holes	<input type="checkbox"/> Offset
<input type="checkbox"/> Torque Waves in Extrusion	<input type="checkbox"/> Drawing	<input type="checkbox"/> Out of Calibration
<input type="checkbox"/> Turning Sequence	<input type="checkbox"/> Finish	<input type="checkbox"/> Out of Sequence
<input type="checkbox"/> Wave/Twist in Tube	<input type="checkbox"/> Folio	<input type="checkbox"/> Outside Dimensions
		<input type="checkbox"/> Ovalized
		<input type="checkbox"/> Over/Under tolerance
		<input type="checkbox"/> Part Incorrect
		<input type="checkbox"/> Part Lost/Missing
		<input type="checkbox"/> Part Moved
		<input type="checkbox"/> Positioned Wrong
		<input type="checkbox"/> Power Loss/Surge
		<input type="checkbox"/> Pressure/Forced
		<input type="checkbox"/> Temperature/Cure
		<input type="checkbox"/> Weld
		<input type="checkbox"/> Wrong Stock Pulled
		<input type="checkbox"/> Other

Picklist Print

April-11-13 2:34:22 PM

Page 1

Work Order ID: 99657

Parent Item: D2258-200

Start Date: 4/11/13

Required Date: 4/11/13

Parent Item Name: Placard 200lb

Start Qty: 10.00

Required Qty: 10.00

Comments: IPP: B04.04.15Reformat; Clarify Step 2KJ/RF

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
---------------------------------	------------------------	---------------	-------------	---------------------	------------------	-----------------	--------------------	----------------	-------------	--------------	---------------	----------------	--------

D2258-200P

Purchased

No

Each

0.0000

10

Weight Placard 200lb

4/30/12 (10)

NCR: Yes / No

WORK ORDER NON-CONFORMANCE / UPDATE

DQA: _____ Date: _____

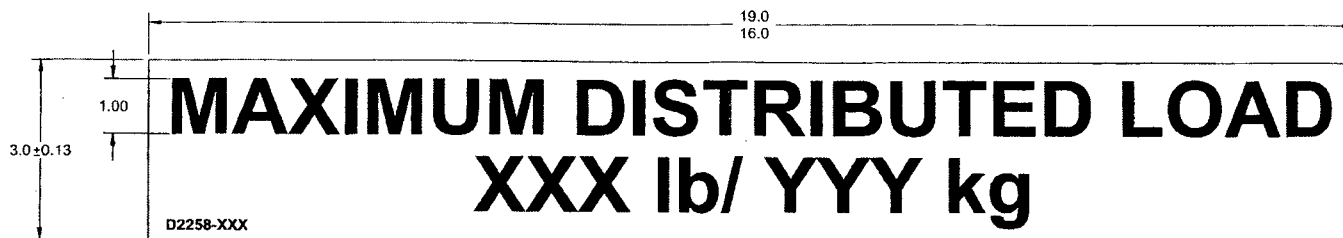
QA Closed: _____ Date: _____

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework <input type="checkbox"/> Scrap <input type="checkbox"/> Use-as-is <input type="checkbox"/> Work Order Update <input type="checkbox"/>	AGAINST DEPARTMENT/PROCESS <div style="display: flex; justify-content: space-between;"> <div> Skid-tube <input type="checkbox"/> Machining <input type="checkbox"/> Thermoforming <input type="checkbox"/> Large Fab <input type="checkbox"/> </div> <div> Crosstube <input type="checkbox"/> Small Fab <input type="checkbox"/> Finishing <input type="checkbox"/> Composite <input type="checkbox"/> </div> <div> Water Jet <input type="checkbox"/> Prod. Eng. Coord. <input type="checkbox"/> Rec/Store/Packaging <input type="checkbox"/> Supplier <input type="checkbox"/> </div> <div> Engineering <input type="checkbox"/> Quality <input type="checkbox"/> Other <input type="checkbox"/> </div> </div>
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Setup									
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FAULT CATEGORY

Landing Gear <input type="checkbox"/> Bending <input type="checkbox"/> Centre Not Concentric to O/S <input type="checkbox"/> Cracks <input type="checkbox"/> Crushed/Crimped <input type="checkbox"/> Cuffs <input type="checkbox"/> Heat Treat <input type="checkbox"/> Inspection Strip in Tube <input type="checkbox"/> Ripples in Bend <input type="checkbox"/> Torque Waves in Extrusion <input type="checkbox"/> Turning Sequence <input type="checkbox"/> Wave/Twist in Tube	General <input type="checkbox"/> Bend <input type="checkbox"/> BOM/Route <input type="checkbox"/> Broken/Damaged <input type="checkbox"/> Burrs <input type="checkbox"/> Contamination <input type="checkbox"/> Countersink <input type="checkbox"/> Cut Too Short <input type="checkbox"/> Drill Holes <input type="checkbox"/> Drawing <input type="checkbox"/> Finish <input type="checkbox"/> Folio	<input type="checkbox"/> Grain <input type="checkbox"/> Hardware <input type="checkbox"/> Inspection Incomplete <input type="checkbox"/> Instructions Incomplete/Unclear <input type="checkbox"/> Maintenance <input type="checkbox"/> Mislabeled <input type="checkbox"/> Misread <input type="checkbox"/> Offset <input type="checkbox"/> Out of Calibration <input type="checkbox"/> Out of Sequence <input type="checkbox"/> Outside Dimensions
		<input type="checkbox"/> Ovalized <input type="checkbox"/> Over/Under tolerance <input type="checkbox"/> Part Incorrect <input type="checkbox"/> Part Lost/Missing <input type="checkbox"/> Part Moved <input type="checkbox"/> Positioned Wrong <input type="checkbox"/> Power Loss/Surge
		<input type="checkbox"/> Pressure/Forced <input type="checkbox"/> Temperature/Cure <input type="checkbox"/> Weld <input type="checkbox"/> Wrong Stock Pulled <input type="checkbox"/> Other



D2258-XXX PLACARD
(XXX = ALLOWABLE WEIGHT IN POUNDS)

PART NUMBER	LOAD
D2258-132	132 lb/ 60 kg
D2258-146	146 lb/ 66 kg
D2258-154	154 lb/ 70 kg
D2258-160	160 lb/ 73 kg
D2258-170	170 lb/ 77 kg
D2258-176	176 lb/ 80 kg
D2258-200	200 lb/ 91 kg
D2258-220	220 lb/ 100 kg
D2258-300	300 lb/ 136 kg

See
R 100
ENGINE
UNCONTROLLED COPY
SUBJECT TO
WITH
WORK ORDER
NO. 99657 MLC
13-04-16

RELEASED
2011-06-29

NOTES:

- 1) MATERIAL: RED LETTERS, 1 HIGH, ADHESIVE BACK
MANUFACTURED FROM 3M, 7 MIL MASKING FILM #8522CP OR
AVERY IPM #2031
- 2) FINISH: N/A
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: N/A
- 6) IDENTIFICATION: N/A
- 7) WEIGHT: N/A
- 8) PART NUMBER = D2258-MAX DISTRIBUTED WEIGHT IN POUNDS (lbs) OF THE BASKET.
EXAMPLE: D2258-132 IS A BASKET WITH MAX DISTRIBUTED WEIGHT OF 132 POUNDS (lbs).

F	ADD P/N D2258-154 (ZN B5-1)	(REF. NCR11-870)	MB	11.06.17
E	ADD P/N D2258-146 (ZN B5-1)	UPDATE TOLERANCE AS PURCHASED (ZN D4-1, D8-1)	CP	10.01.15
D	ADD P/N D2258-176		HS	09.06.03
C	REDRAWN. SEE PAR 08-028		AJS	08.10.29
B	ADDED NOTE		BW	95.11.29
A	NEW ISSUE		BW	94.02.28
REV.	DESCRIPTION		BY	DATE
DESIGN	BW	DART AEROSPACE LTD		
DRAWN		HAWKESBURY, ONTARIO, CANADA		
CHECKED	JP	DRAWING NO.	D2258	REV. F
MFG. APPR.	JP	SHEET 1 OF 1		
APPROVED	JP	TITLE	UTILITY BASKET PLACARD	
DE APPR.	JP	SCALE NTS		
DATE	11.06.17	COPYRIGHT © 1994 BY DART AEROSPACE LTD		
THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.				



Dart Aerospace Ltd.
1270 Aberdeen Street
Hawkesbury, ON K6A 1K7
Tel: 613 632 9577
Fax: 613 632 1053

PURCHASE ORDER

Purchase Order ID **PO19613**

Purchase Order Date 4/17/2013

PO Print Date 4/18/2013

Page Number 1 of 2

Order From :

VC-STU001

STUDIO DE LETTRAGE 2001
210 MAIN WEST
HAWKESBURY, ON K6A 2H6
CA

Contact Name

Vendor Phone

613 632 5449

Vendor Fax

613 632 9491

Vendor Account Nbr

Buyer

Brigitte Golden

Requisition Nbr

Tax Resale Nbr

10127-2607

Terms

Net 30

Currency

CAD

FOB

Destination-Collect

Ship To :

DART AEROSPACE LTD

1270 ABERDEEN
HAWKESBURY, ON K6A 1K7
CANADA

FAKED
6/13/07

Line Nbr	Reference Revision ID Vendor Part Number	Description/ Mfg ID	Req Date/ Taxable	Req Qty/ Unit of Measure	Ship Method	Unit Price	Extended Price
1	D2137P	Decal - No Step	4/19/2013 Yes	10.00 Each	Yours ppd	\$7.5000	\$75.00
		Special Inst:	AS PER DWG: D2137 B99733				
2	D2258-200P	Weight Placard 200lb	4/19/2013 No	10.00 Each	Yours ppd	\$12.9100	\$129.10
		Special Inst:	INFO AS PER DWG: D2258 REV: F B99657				
3	D3997-13P	Placard	4/19/2013 No	10.00 Each	Yours ppd	\$7.5000	\$75.00
		Special Inst:	AS PER DWG: D3997 REV: A B99821				

No substitution or deviation without
consent.
Certificate of Conformity or Material
Certification required - YES NO

Change Nbr: 2

Change Date: 4/18/2013

Studio de Lettrage

210 Main Street W
Hawkesbury, Ontario K6A 2H6

INVOICE

Invoice No.: 19915
Date: 04/19/2013
Ship Date:
Page: 1
Re: Order No. WO9726

Sold to:

Dart Aerospace Ltd
1270 Aberdeen
Hawkesbury, Ontario K6A 1K7

Ship to:

Dart Aerospace Ltd
Hawkesbury, Ontario

Business No.: 82500 7651 RT0001

Item No.	Unit	Quantity	Description	Tax	Unit Price	Amount
		10	STICKERS 3M CUT VINYL, 1 SIDE D2137P	H	2.500	25.00
		1	LAYOUT	H	50.000	50.00
		10	STICKERS 3M CUT VINYL, 1 SIDE D2258-200P	H	0.791	7.91
		1	LAYOUT	H	50.000	50.00
		10	STICKERS 3M CUT VINYL, 1 SIDE D3997-13P	H	2.500	25.00
		1	LAYOUT	H	50.000	50.00
		10	STICKERS 3M CUT VINYL, 1 SIDE D3997-11P	H	2.500	25.00
		1	LAYOUT	H	50.000	50.00
			H - HST 13%			
			HST			36.78
			Po # 19613.			
Studio de Lettrage HST: #825007651RT0001.						
Shipped By: Tracking Number:						
Comment:						
Sold By:						
Total Amount						319.69

****Certificate of Conformity****

Customer:

Studio Loftage

Purchase Order #:

19613

Packing Slip #:

W069726

Part #:

See descrip.

Serial #:

Description:

D2137P, D2258-200

Quantity:

D3997-13, D3997-11P

10 EACH.

Certification:

We hereby certify that:

1. The above the listed items were manufactured, repaired and/or inspected in accordance with applicable drawings and/or specifications;
2. All work was accomplished in accordance with the Dart Aerospace Purchase Order;
3. Results of all inspections, chemical or physical tests, as well as other evidence, which shows the acceptability of raw materials, parts and/or assembly components are on file and available for inspection at any time.

Authority:

3M

APPROVAL: Karen STEMARIE

DATE:

Signature:

Karen Ste-Marie

Title:

Project Coordinator

April 19, 2013.



Product & Instruction Bulletin 8522

Release I, Effective September 2008
See Bulletin Change Summary and end of Bulletin
This Bulletin now includes Instruction Bulletin 4.23

Scotchcal™ Changeable Opaque Imaging Media 8522

Product Description

For Thermal Inkjet Printing

This durable, 7 mil, opaque, changeable film is optimized for use with selected thermal inkjet printers and inks. Ink dries quickly on the film. When overlaminated, it is warranted for medium term, outdoor weatherable graphics, and long term indoor graphics.

Recommended Types of Graphics and End Uses

When constructed and used as described in this Bulletin, these types of graphics and end uses may be warranted by the 3M™ MCS™ Warranty. Please read the entire Bulletin for details.

- First surface images (the image is on top of the film) for opaque posters and signs, including:
 - Graphics for vans, personal vehicles, trucks and buses
 - Novelty posters
 - Retail and point-of-purchase displays
 - Information graphics such as maps and directories
 - Entertainment promotions in museums, zoos, parks, theatres, sports venues
 - Education and presentation graphics
 - Legal and courtroom exhibits
- For flat or simple curved surfaces, with or without rivets, used in vertical ($\pm 10^\circ$) applications

Limitations of End Uses

3M specifically does not recommend or warrant the following uses, but please contact us to discuss your needs or recommend other products.

Unsuitable End Uses for This Product

- Not for electronically cut individual letters and numbers
- Fleet applications in areas that use salt for winter road maintenance
- Application to non-warranted substrates, including wallboard
- Applications subjected to gasoline vapors or spills
- Application to corrugated or highly irregular surfaces or sharply raised areas
- Graphics applied to stainless steel, including stainless steel vehicles
- On flat surfaces with rivets, tenting of 4 to 10 mm around rivets may be expected; rivets may be cut around to eliminate tenting.
- Graphics made for automotive Original Equipment Manufacturers (OEM); contact 3M Automotive Division at 1-800-328-1684 for alternatives.

About Water-Based Inkjet Technology

Standard inkjet technology is water based. Water-based chemistry is susceptible to the extremes of heat and humidity. This is a factor in most product constructions on the market. Read the Fabrication, Shelf Life and Storage sections in this Bulletin. Staying in the middle of these ranges always provides optimum performance.

Compatible Products

3M Graphic Materials

For complete details about graphic construction options, recommended uses and durability, refer to the Product Bulletin for the base film or substrate (media) you are using. See **3M Related Literature** at the end of this Bulletin.

This Bulletin provides details about the base film and construction options and warranty. Additional specific information about compatible products can be found in the Product and Instruction Bulletins listed in **3M Related Literature** at the end of this bulletin.

3M Graphic Materials

For complete details about graphic construction options, recommended uses and durability, refer to the Product Bulletin for the base film or substrate (media) you are using. See **3M Related Literature** at the end of this Bulletin.

Film

- 3M™ Scotchcal™ Opaque Imaging Media 8522

Overlamine

- 3M™ Scotchcal™ Luster Overlamine 8519
- 3M™ Scotchcal™ Matte Overlamine 8520

Printers and Inks

HP Designjet Printers

- 2500CP and 2000CP
2800CP and 3800CP
3500CP and 3000CP
- HP Designjet 5000 and 5500
- Z6100

HP Inks

- Designjet CP Ink System UV (pigment-based)
- Designjet CP Inkjet System (imaging ink)
- HP 91 Vivera Ink System

Epson Printers

- Stylus Pro 9500
- Stylus Pro 10000 printer
- Stylus Pro 10600 printer

Epson Inks

- Archival Inks

Characteristics

These are typical values for unprocessed product; processing may change the values. Contact your 3M representative for a custom specification.

Characteristic	Description
Media	7 mil, white, opaque graphic film
Liner	Low-slippage, lay flat paper
Adhesive	Changeable, pressure sensitive
Thickness	Media with adhesive: 7.5 to 8 mil (nominal)
Warranted application substrates	See next page.
Application surfaces	Flat or simple curved surfaces, with or without rivets, used in vertical ($\pm 10^\circ$) applications (no corrugations)
Application temperature range	28° to 110°F (-2° to 43°C) (air and surface)
Removable	For up to one year; see Warranty Information

Characteristic	Description
Warranted application substrates	<p>Some substrates may "out-gas", resulting in tiny bubbles throughout the surface of the graphic. For maximum performance, be sure the substrate you select is properly cleaned and prepared as recommended by the manufacturer. See Instruction Bulletin 5.1 for additional information.</p> <ul style="list-style-type: none"> • Alodine (anodized aluminum) • Automotive panels (automotive painted steel) • Fruehauf (painted aluminum) • FRP (fiberglass reinforced plywood) • Glass • Imron® (polyurethane-painted metal panel) • Acrylic • Sintra™ board <p>Note: Use on any other substrate is strictly on a graphics manufacturer and customer test and approve basis. Test for both adhesion and removal characteristics. The plasticizer in some banner materials may migrate. This may cause the edge of the graphic to peel or lift off of the banner. For optimum performance, follow the guidelines in the section, Creating A Laminated Overlap, on page 4.</p>

Warranty Information

The warranty given in the Product Bulletin that is current at the time you purchased the film is the one that 3M will honor. **The warranties in the following table(s), given in years, are for finished graphics exposed in a vertical exposure in the United States except the Desert Southwest.** See the warranty sections following this table for additional information.

3M™ MCS™ Warranty Durability for Finished Graphics

Construction (film and overlamine on warranted substrate)	HP Printers & Inks		Epson Printers & Inks		Removal
	Outdoor	Indoor	Outdoor	Indoor	
8522/8519	3 years	5 years	2 years	5 years	1 year without chemical strippers or tools
8522/8520					

Warranty and Limited Remedy

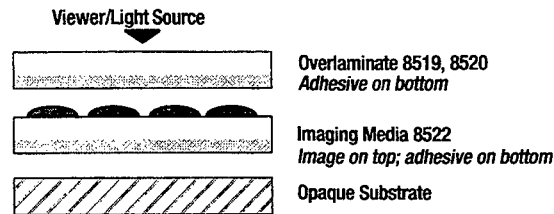
The following is made in lieu of all other express or implied warranties, including any implied warranty of **merchantability** or fitness for a particular purpose or implied warranty arising out of a course of dealing, custom or usage of trade: all 3M products are warranted to be free of defects in materials and manufacture at the time of shipment and to meet the specifications stated in this Product Bulletin. 3M will replace or refund the price of any 3M materials that do not meet this warranty within the specified time periods. These remedies are exclusive. **In no case shall 3M be liable for any direct, indirect, or consequential damages, including any labor or non-3M materials charges.**

See the Graphics Market Center Warranty Brochure, which gives the terms, additional limitations of the warranty, if any, and limitations of liability.

Graphic Construction Options

Opaque Graphics

Opaque graphics made with imaging media 8522 require an overlamine and an opaque substrate.



Fabrication

Shop Temperature

Acceptable: 60° to 95°F (15° to 35°C)
Optimum: 65° to 73°F (18° to 23°C)

Shop Humidity

Acceptable: 20% to 80%
Optimum: 45% to 60%

Condition the Media Before Use

These steps are especially important if you are operating outside the conditions recommended under Fabrication, above.

- Leave the media in its original packaging until you are ready to condition and use it.
- The day before you need it, remove the media from the box and remove the plastic.
- Condition the media for 24 hours in the same environment as the printer.

Printer Settings for Optimum Quality

Refer to your Hewlett Packard printer manual for detailed operating instructions.

The quality of a printed image depends on a combination of factors: correct media selection, printing software and raster imaging processor (RIP), shop conditions, etc.

The printers qualified to use this media have print mode options that are programmed specifically for these media. Current charts that show the various modes and printing dpi, and the quality results you can expect are available at www.hp.com under the website's support section. We recommend that you print the same image at all of these settings to determine acceptable print and productivity results.

The highest quality settings are usually desirable for backlit applications.

The correct media selection makes most other necessary adjustments to the printer.

- For the HP DesignJet CP 2000 or 3000 series printers, select the **Opaque Vinyl UV** setting.
- For the HP Designjet 5000 series printers, select the **3M Changeable UV** setting or the **HP Durable Gloss UV** or **HP Colorfast Vinyl** setting.
- For the Z series printers, refer to HP's website or printer manuals.

Note: The HP printer settings lay down less ink per pass, which results in better ink absorption and quicker drying times.

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Drying Guidelines

Usually, the media can be laminated within 10 minutes after printing. However, especially in high humidity conditions, we recommend waiting 15 to 30 minutes before laminating.

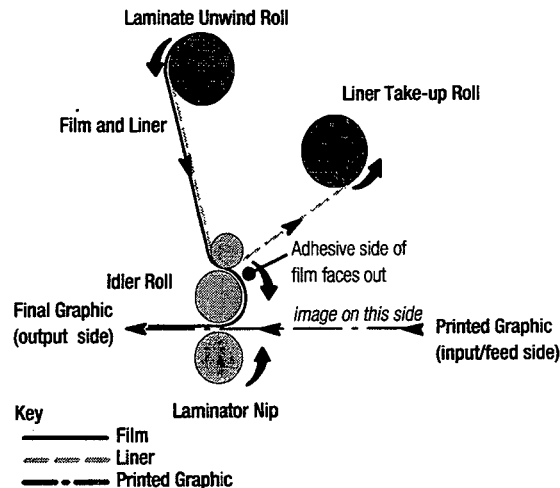
Use care when handling graphics that have not been laminated to avoid scratching and abrasion.

Graphics made with this media and ink combination typically may be wound directly on a take-up roll after printing.

Overlamine

Whether or not you want a warranted graphic, an overlamine is recommended to enhance durability, especially in outdoor applications.

FIGURE 1
Typical Laminator Thread-up



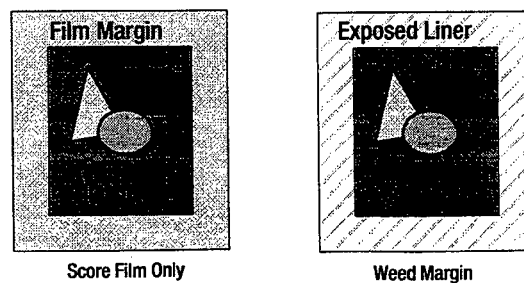
Creating a Laminated Overlap

Creating a laminated overlap helps ensure that the graphic does not peel or lift away from certain banner materials that may be subject to plasticizer migration. This method may also be used for flat, rigid or flexible sign applications.

1. Print the graphic as usual.
2. On all sides of the graphic, score *the film only* to the correct, final graphic dimension *without cutting through the liner*.

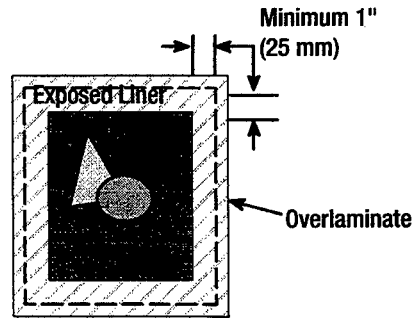
Weed away the excess film, leaving the bare liner exposed around the graphic. See FIGURE 2.

FIGURE 2
Trim and Weed Film Margin Only



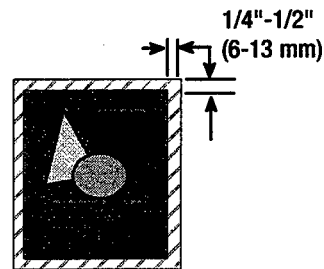
3. Laminate the graphic as usual (see page 5), making sure that at least one inch of the bare liner is covered by the laminate. See FIGURE 3.

FIGURE 3
Apply Overlamine



4. Trim the graphic to its final dimensions, making sure to leave a margin of 1/4 to 1/2 inch (6 to 13 mm) laminated liner on all sides that require the laminate overlap. See FIGURE 4.

FIGURE 4
Trim, leaving a margin of overlaminated Liner



Mounting the Final Graphic

Mounting Methods

Use the following guide to determine if you should mount the final graphic on its intended sign substrate by hand or with a laminator.

Hand

- Thick or rigid graphics
- Removable or positionable adhesive
- Complex sign mounting surface
- Small graphic mounted by 1 person
- Medium to large graphic mounted with 2 people
- Fleet graphics applied directly to the vehicle

Laminator

- Thin or flimsy graphics
- Aggressive mounting adhesive
- Flat sign mounting surface
- Medium to large graphic mounted by 1 person

Procedure

1. Be sure the temperature of the air, graphic and surface to which you mount the graphic is 45° to 95°F (7° to 35°C).
2. Be sure the substrate is clean and dry. Contaminants prevent good adhesion.
3. If your substrate is susceptible to outgassing, treat it according to the manufacturer's recommendations before mounting the graphic. This avoids bubbling that may be unacceptable.
4. For hand lamination only: Put a low friction paper sleeve over a hard plastic squeegee. The sleeve helps prevent scratching the graphic surface.
5. Position the graphic on the substrate, leaving about a 2 inch (50 mm) margin all around the graphic.
6. Apply a 2 inch (50 mm) wide piece of masking tape across the top edge of the graphic.
7. Flip the graphic over. You can roll the graphic for easier handling, if desired.

8. Flip the graphic over. You can roll the graphic for easier handling, if desired.
9. Strip back some of the liner, starting at the taped edge. Do not allow the adhesive to touch the substrate yet.
10. For hand lamination only:
 - a. Hold the graphic up with one hand and use the other hand to hold the squeegee.
 - b. Starting in the middle of the taped edge of the graphic, use smooth, overlapping strokes to each side of the graphic.
 - c. Stop immediately if you notice some wrinkling. Lift the wrinkled area and reposition. Then gently squeegee the wrinkle to finish smoothing it.
 - d. Pull back some more liner and continue squeegeeing the graphic. To finish the graphic, trim the substrate to the desired size.
11. For a laminator only:
 - a. Position the taped edge of the graphic into the laminator nip.
 - b. Start the laminator.
 - c. As the graphic is pulled through the nip, continue pulling off the liner.
 - d. To finish the graphic, trim the substrate to the desired size.
12. After applying the graphic, resqueegee all edges firmly. Premature lifting of the graphic may occur if the edges are not adequately laminated.

End of Day Protocol

- Unthread the web from the printer and tape the roll closed at the center. It is not necessary to remove the roll from the printer.
- If the media will not be used for a few days, remove it from the printer and rewrap it. See *Shelf Life, Storage and Shipping* on page 4.

Care and Cleaning of Graphics

Avoid contact between the finished graphic and water or other liquids during production, handling, and application, especially before laminating.

Use a cleaner designed for high-quality painted surfaces. The cleaner must be wet, non-abrasive, without strong solvents, and have a pH value between 3 and 11 (neither strongly acidic nor strongly alkaline.)

Refer to 3M Instruction Bulletin 6.5 for general maintenance and cleaning information.

Removing Graphics

Always test the substrate for removal before applying the final graphic. Paint that has poor adhesion to the substrate may be pulled off when removing the film. Aged surfaces with oxidation or chalking may leave adhesive residue on the substrate after the film is removed.

If the substrate surface is appropriately sealed, just lift an edge of the graphic and peel it back at a 180 degree angle; lesser angles may leave adhesive residue. No heat or chemicals are required.

Health and Safety



When handling any chemical products, read the manufacturers' container labels and the Material Safety Data Sheets (MSDS) for important health, safety and environmental information. To obtain MSDS sheets for 3M products go to 3M.com/MSDS, or by mail or in case of an emergency, call 1-800-364-3577 or 1-651-737-6501.

When using any equipment, always follow the manufacturers' instructions for safe operation.

Shelf Life, Storage and Shipping

Shelf Life Storage Conditions

Total shelf life: 1 year (processed, unprocessed or any combination thereof)

- New and partially used rolls. For optimum performance, use the middle of these ranges:
 - Original packaging, including plastic wrap to protect from contamination
 - Use an end plug and tape down the edge to prevent damage if the media is stored upright
 - Relative humidity of 20% to 80%
 - Temperature of 33° to 104°F (0° to 40°C)
 - Away from direct sunlight
- Bring the film to print room temperature before using
- Do not stack unprotected rolls or lay sharp or heavy objects on them.
- Do not lay sharp or heavy objects on unprotected rolls and do not stack them.

Shipping Finished Graphics

Flat, or rolled printed side out on 5 inch (13 cm) or larger core. This helps prevent the liner and, if used, the application tape from popping off.

3M Related Literature

Before starting any job, be sure you have the most recent product and instruction bulletins.

The information in 3M Product and Instruction Bulletins is subject to change. Current Bulletins are available at 3Mgraphics.com. The techniques described in these Bulletins are required when applying a 3M warranted graphic, but are also practical recommendations when using promotional materials for non-warranted graphics. Additional Bulletins may be needed as indicated in the 3M Related Literature section of other 3M components you use.

Bulletin types: PB = Product Bulletin; PB-IB = Product & Instruction Bulletin; IB = Instruction Bulletin

Subject	Type	Bulletin No.
3M™ Scotchcal™ Luster Overlamine 8519 and 8520	PB	8519/8520
Application, substrate selection, preparation and substrate-specific application techniques	IB	5.1
Application, general procedures for indoor and outdoor dry applications	IB	5.5
Storage, handling, maintenance, removal	IB	6.5
3M Graphics Center Warranty Brochure	go to www.3Mgraphics.com , Warranties	

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Bulletin Change Summary

HP Designjet printer Z6100 and HP 91 Vivera ink systems have been added to the list of compatible printers and inks.

Instruction Bulletin 4.23 has been incorporated into this Bulletin, which is now called Product & Instruction Bulletin 8522.

3M™ Scotchcal™ Instant Dry Translucent Imaging Media 8544, which was shown in Instruction Bulletin 4.23, is obsolete. A backlit graphic option is no longer available.



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